

PATENT

HUTCHENS et al.  
Application No.: 09/100,633  
Page 7

APPENDIX

25. (As filed) A substrate comprising an adsorbent that comprises a polypeptide agent that specifically binds to a target analyte, the polypeptide agent identified by the method of claim 33.

26. (As filed) The substrate of claim 25 wherein the polypeptide agent is a single chain antibody.

30. (As filed) A screening method for determining whether an agent modulates binding between a target analyte and an adsorbent comprising the steps of:

- a) providing a substrate comprising an adsorbent to which the target analyte binds under an elution condition;
- b) exposing the substrate to the target analyte and to the agent under the elution condition to allow binding between the target analyte and the adsorbent;
- c) detecting an amount of binding between the target analyte and the adsorbent by desorption spectrometry; and
- d) determining whether the measured amount is different than a control amount of binding when the substrate is exposed to the target analyte under the elution condition without the agent;  
whereby a difference between the measured amount and the control amount indicates that the agent modulates binding.

33. (As filed) The method of claim 30 for screening a combinatorial library of agents comprising exposing each of a plurality of agents in the library to each of a plurality of the adsorbents.

34. (Once amended) The method of claim [31] 30 wherein the [ligand is] adsorbent comprises an enzyme and the target analyte [is] comprises a substrate of, or an inhibitor for, the enzyme, or vice-versa.

35. (Once amended) The method of claim [31] 30 wherein the [ligand is] adsorbent comprises a hormone and the target analyte [is] comprises a cell surface receptor or an intracellular receptor of the hormone, or vice-versa.

36. (New) The method of claim 30, wherein the adsorbent comprises a small organic molecule or a biopolymer.

37. (New) The method of claim 30, wherein the adsorbent comprises a cell.

38. (New) The method of claim 30, wherein the adsorbent comprises a cell membrane.

39. (New) The method of claim 30, wherein the adsorbent comprises a virus.

PATENT

HUTCHENS et al.  
Application No.: 09/100,633  
Page 8

40. (New) The method of claim 30, wherein the adsorbent comprises a chemically derivatized functional group.
41. (New) The method of claim 36, wherein the adsorbent comprises a nucleic acid.
42. (New) The method of claim 36, wherein the adsorbent comprises a polypeptide.
43. (New) The method of claim 36, wherein the adsorbent comprises a fusion protein.
44. (New) The method of claim 36, wherein the adsorbent comprises a cell surface receptor.
45. (New) The method of claim 36, wherein the adsorbent comprises a glycoprotein.
46. (New) The method of claim 36, wherein the adsorbent comprises an antibody.
47. (New) The method of claim 36, wherein the adsorbent comprises a carbohydrate.
48. (New) The method of claim 36, wherein the adsorbent comprises a lectin.
49. (New) The method of claim 30, wherein the target analyte comprises a small organic molecule or a biopolymer.
50. (New) The method of claim 30, wherein the target analyte comprises a cell.
51. (New) The method of claim 30, wherein the target analyte comprises a cell membrane.
52. (New) The method of claim 30, wherein the target analyte comprises a virus.
53. (New) The method of claim 49, wherein the target analyte comprises a nucleic acid.
54. (New) The method of claim 49, wherein the target analyte comprises a polypeptide.
55. (New) The method of claim 49, wherein the target analyte comprises a fusion protein.

PATENT

HUTCHENS et al.  
Application No.: 09/100,633  
Page 9

56. (New) The method of claim 49, wherein the target analyte comprises a cell surface receptor.

57. (New) The method of claim 49, wherein the target analyte comprises a glycoprotein.

58. (New) The method of claim 49, wherein the target analyte comprises an antibody.

59. (New) The method of claim 49, wherein the target analyte comprises a carbohydrate.

60. (New) The method of claim 49, wherein the target analyte comprises a lectin.

61. (New) The method of claim 30, wherein the adsorbent comprises a nucleic acid and the target analyte comprises a protein, or vice versa.

62. (New) The method of claim 30, wherein the adsorbent comprises a DNA-binding protein and the target analyte comprises a DNA, or vice versa.

63. (New) The method of claim 30, wherein the adsorbent comprises a protein and the target analyte comprises a protein.

64. (New) The method of claim 30, wherein the adsorbent comprises an antigen and the target analyte comprises an antibody, or vice versa.

65. (New) The method of claim 30, wherein the adsorbent comprises a protein and the target analyte comprises a genetic package, or vice versa.

66. (New) The method of claim 30, wherein the agent is a small molecule.

67. (New) The method of claim 33, wherein the combinatorial library is a peptide library, an antibody library or a genetic package library.

68. (New) The method of claim 30, wherein the desorption spectrometry is a laser desorption/ionization mass spectrometry.

69. (New) The method of claim 30, wherein the target analyte is detectably labeled with a fluorescent moiety or a radioactive moiety.